

**UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION**

**IN RE: LUMBER LIQUIDATORS)
CHINESE-MANUFACTURED FLOORING)
PRODUCTS MARKETING, SALES) MDL No.: 1:15-md-02627-AJT
PRACTICES AND PRODUCTS LIABILITY)
LITIGATION)
_____)**

THIS DOCUMENT RELATES TO ALL CASES

**LUMBER LIQUIDATORS' MEMORANDUM IN SUPPORT OF
MOTION TO EXCLUDE EXPERT REPORTS AND TESTIMONY OF
FRANCIS J. OFFERMANN, STEVEN A. VERHEY, AND DAVID E. JACOBS
AS RELATED TO DECONSTRUCTIVE TESTING**

Diane P. Flannery (VSB No. 85286)
E-mail: dflannery@mcguirewoods.com
McGuireWoods LLP
Gateway Plaza
800 East Canal Street
Richmond, Virginia 23219-3916
804.775.1015 (Telephone)
804.698.2047 (Facsimile)
Defendant's Co-Lead Counsel

William L. Stern (Pro Hac Vice)
E-mail: wstern@mofo.com
Morrison & Foerster LLP
425 Market Street
San Francisco, CA 94105-2482
415.268.7000 (Telephone)
415.268.7522 (Facsimile)
Defendant's Co-Lead Counsel

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The Court should exclude all opinions and testimony related to deconstructive testing as described in the Standard Operating Procedure for Finished Good Test Specimen Preparation Prior to Analysis of Formaldehyde Emissions From Composite Wood Products (“Deconstructive Testing Protocol,” or “Protocol”)—contained in the expert reports and testimony of Francis J. Offermann, Dr. Steven A. Verhey, and Dr. David E. Jacobs—for failure to comply with the legal standard for admissibility of expert testimony established in *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993) and Rule 702 of the Federal Rules of Evidence.

INTRODUCTION

A chef wishes to measure the acidity of an apple. The most straightforward method is to measure the acidity of the apple while it is in its raw, unadulterated form. But the chef does not have the apple in its raw form. Instead, the apple has been made into a pie, combined with lemon juice, various spices, sugar, and then baked in the oven for forty-five minutes. After the pie is finished baking, the chef cuts into a corner of the pie, attempts to scrape away the other ingredients, and then measures the apple’s acidity. The chef concludes that the acidity of this piece of apple is an accurate surrogate for measuring the acidity of the original raw apple. But as a matter of science, the chef is mistaken. A scientist understands that during the baking process, the additional fillings and the heat of the oven permanently changed the composition of the original raw apple. Measuring the acidity of the post-baked apple measures only that. It cannot accurately or reliably measure the acidity of the raw apple.

The Deconstructive Testing Protocol suffers from the same flaws. Deconstructive testing attempts to measure formaldehyde emissions from a raw medium density fiberboard (“MDF”) core after it is made into a finished laminate flooring product. It fails to account for the manufacturing process, which includes adding more resins and extra unregulated formaldehyde

glue and subjecting the raw core to intense heat and compression. It relies on a subjective and imprecise method of stripping away the flooring's top and bottom layers to reveal the MDF core. It assumes, incorrectly, that the now "deconstructed" MDF core would yield the same formaldehyde emissions as that of the original raw core.

Plaintiffs are asking this Court to endorse the Protocol as an accurate method of measuring the formaldehyde emissions of the raw core. But doing so would require the Court to accept a "greatly suspect" and "overly speculative" premise. *Gross v. King David Bistro, Inc.*, 83 F. Supp. 2d 597, 600 (D. Md. 2000). The Protocol has not been validated by peer-reviewed scientific literature, is of unknown precision and bias, entails wide variability in the application of the Protocol, and is not widely accepted by the applicable scientific and industry fields. Moreover, testing studies underlying the Protocol show that it is an inaccurate surrogate for measuring raw core emissions. Therefore, this Court should exclude this evidence under *Daubert*. This Court should also exclude the expert testimony and opinions of Plaintiffs' experts Francis J. Offermann, Dr. David E. Jacobs, and rebuttal expert Dr. Steven A. Verhey as related to deconstructive testing where Plaintiffs' experts rely on their subjective experiences, biased sampling methods, and suspect inferential leaps to generate speculative opinions—further exacerbating the inherent unreliability of the Protocol.

FACTUAL BACKGROUND

I. Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products.

A. Development of ATCM

The California Air Resources Board ("CARB" or "ARB") is a branch of the California Environmental Protection Agency. ARB Mission and Goals, <http://www.arb.ca.gov/>

html/mission.htm (March 27, 2012). On April 26, 2007, CARB approved the Airborne Toxic Control Measure (“ATCM”) to Reduce Formaldehyde Emissions from Composite Wood Products. Rulemaking Activity, <http://www.arb.ca.gov/regact/2007/compwood07/compwood07.htm> (April 18, 2008). The purpose of the ATCM is to reduce California public exposure to formaldehyde from composite wood products, as well as from finished goods that contain composite wood products. Ex. 1: Baker Dep. 18:11-14. The ATCM requires determining if a composite wood contained in a finished product complies with emissions standards. *Id.* at 23:24-24:03.

This litigation implicates MDF products used to make laminate flooring sold by Lumber Liquidators, Inc. (“Lumber Liquidators”) that were manufactured by third parties in China. *See* Ex. 2: Consolidated Am. Compl. ¶¶ 35, 145. The first emission standard (“Phase I”) went into effect in 2009. *See* Consumer FAQs, http://www.arb.ca.gov/toxics/compwood/consumer_faq.pdf. The current Phase II standard mandates that “no person shall sell, supply, offer for sale, or manufacture for sale in California any composite wood product which, at the time of sale or manufacture, does not comply” with the 0.11 parts per million (ppm) emission standard for MDF. *See* Ex. 3: ATCM § 93120.2.

The ATCM divides entities into four categories: distributors, importers, fabricators, or retailers. Ex. 3: ATCM § 93120.1. Lumber Liquidators is a retailer under the regulation, defined as any “person or entity that sells, offers for sale, or supplies directly to consumers composite wood products or finished goods that contain composite wood products.” *Id.* at § 93120.1 (38). Lumber Liquidators’ subsidiary is also an importer under the regulation¹. *Id.* at § 93120.1 (23). Retailers and importers are not required to conduct formaldehyde emissions

¹ Retailers and importers are subject to the same requirements under the ATCM. *See generally* Ex. 3: ATCM § 93120.

testing. *See* FAQ No. 32, <http://www.arb.ca.gov/toxics/compwood/implementation/faq.htm> (Feb. 8, 2016); *see also* Ex. 1: Baker Dep. 48:17-19. Instead, retailers and importers must collect “documentation from their supplier that the composite wood products or the finished good that they were importing contained compliant composite wood products.” Ex. 1: Baker Dep. 48:12-23. CARB is the “*only* entity that can issue a violation for a composite wood product material contained in a finished good.” *Id.* at 52:02-04 (emphasis added).

B. Development of The Deconstructive Testing Protocol

The ATCM does not regulate the formaldehyde emissions of a finished product, such as the laminate flooring product that would be placed in a person’s home. Rather, the ATCM regulates emissions levels of the composite wood (i.e., MDF) *contained* in a finished product. *Id.* at 23:24-24:03. By not regulating emissions from the finished product, which could easily be tested in an air chamber, the California regulators created the issue of how to emissions test a composite wood layer that was already enclosed in a finished flooring product. The most straightforward method to ensure compliance is to test the raw composite wood core *before* it undergoes the process of becoming laminated or veneered into a finished product. While not required under the ATCM, Lumber Liquidators performed this test on certain randomly selected samples of raw core, used by fabricators supplying Lumber Liquidators, on a quarterly basis as part of its regular compliance testing program. Nonetheless, CARB also sought to test the emissions level of the composite core *after* it has been transformed into a finished product. Thus, on September 19, 2013, CARB announced the Deconstructive Testing Protocol, which involves stripping the finished product down to the composite wood core layer and emissions testing the exposed composite wood product. *See* FAQ No. 30, <http://www.arb.ca.gov/toxics/compwood/implementation/faq.htm> (Feb. 8, 2016).

i. Inadequate Testing Underlying The Deconstructive Testing Protocol

Plaintiffs may argue that CARB's endorsement of the Deconstructive Testing Protocol is definitive proof of its scientific reliability. But this is not so. CARB failed to conduct sufficient testing to establish the reliability of the Deconstructive Testing Protocol for use with laminate flooring products. The studies that do exist were focused on non-laminate products, and cast doubt on the reliability and accuracy of the Protocol. Since CARB disclosed the Deconstructive Testing Protocol, there has only been one scientific study of the test methodology. That study concludes that testing the same products using non-deconstructive testing versus deconstructive testing yields very different results:

[W]e found that the CARB Deconstructive emission test results can be highly variable, even when using a single laboratory to evaluate different lots of the same wood laminate product. This would seem to indicate that extrapolation of results to other products would contain a great deal of uncertainty.

Ex. 4: J.S. Pierce et al. An Assessment of Formaldehyde Emissions from Laminate Flooring Measured in China. *REGUL. TOXICOL. PHARMACOL.* 81 (2016) 20, 30.

Prior to CARB's deconstructive testing announcement in 2013, there were 3 studies performed. None were peer reviewed by independent scientists or published in scientific literature. In 2007, CARB established the Joint Task Force on Deconstructive Testing ("Task Force") to help CARB determine how best to "test composite wood material that was contained in finished goods." Ex. 1: Baker Dep. 58:19-23. The Task Force was comprised of companies and associations in the composite wood products industry. *Id.* at 59:17-22. In 2008, members of the Task Force provided data to CARB from preliminary deconstructive tests conducted by members of the Task Force. Ex. 5: Minutes of the Joint Task Group on Deconstructive Testing Conference Call, September 25, 2008. While no clear consensus was reached from the study, the data suggested that removing the surface material beyond a certain depth increased the emissions

measurement relative to that of the raw composite wood product. *Id.*; *see also* Ex. 6: Wait Report at 8.

In 2013, CARB conducted its own study and used the results to “finalize [CARB’s] standard operating procedures for testing composite wood products contained in finished goods.”

Ex. 1: Baker Dep. 82:18-83:10. For this study, raw panels and finished panels made from those raw panels were tested at different depths of deconstruction and compared. Ex. 7: 2013 CARB Study. CARB’s objectives in conducting this study were two-fold:

One was to collect data to show that *some veneer laminated products* emit considerably more formaldehyde than the raw material itself, due to the formaldehyde in the glue used to affix the veneer; but the second objective was to help us to finalize our sample preparation procedure and correlate or tie the deconstructed emissions to the original raw panel emissions and to see at what surface root removal amount compared most closely with the original raw panel, raw MDF or raw particleboard emissions.

Ex. 1: Baker Dep. 87:20-88:07 (emphasis added). As such, CARB’s study was limited to products featuring a *veneer* layer, and not a laminate layer like the products implicated in this litigation.

In addition to these two studies, the American Home Furnishings Alliance (“AHFA”) conducted a study in 2009 testing *particleboard* panels sampled from the same lot.² Ex. 8: 2009 AHFA Study. The AHFA is a furniture industry group representing “companies large and small, public and private, domestic and import.” “About AHFA,” <https://www.ahfa.us/about-us/>. The AHFA “initiates research and provides industry leadership in the development of . . . effective safety standards for home furnishings products” and is “the industry’s representative with ASTM International and the U.S. Consumer Product Safety Commission.” *Id.* For this study, half of the panels were cut and measured raw, and then deconstructed and measured again. Ex. 8: 2009 AHFA Study; *see also* Ex. 6: Wait Report at 7. The other half were finished with a veneer and

² This study has limited applicability to MDF cores, as it was conducted on particleboard panels.

measured, and then deconstructed and measured again. Ex. 8: 2009 AHFA Study. The AHFA study concludes that “[d]econstruction significantly alters the emissions characteristics of Composite Panel, regardless of whether the panel is finished or not.” *Id.* at 21.

Using testing data from veneered products or products with particleboard cores and extrapolating the results to unlike products (i.e., laminate products with MDF cores) requires making a “greatly suspect” “inferential leap[]” that fails *Daubert*. *Gross*, 83 F. Supp. 2d at 600. Even Plaintiffs’ expert Offermann concedes that MDF has a different density profile than particleboard, which results in a faster diffusion rate through the less dense portions. Ex. 9: Offermann Dep. 152:08-24. In fact, particleboard has a “less uniform density than MDF.” *Id.* at 152:17. The type of top layer (laminate versus veneer) also creates variation in “potential for [formaldehyde] emissions” because the “top [layer] . . . will inhibit the emissions” and act as a “barrier.” *Id.* at 146:03-22.

ii. Description of The Deconstructive Testing Protocol

CARB defines deconstructive testing as:

[T]he process of separating or cutting the finished good into component parts so that pieces of the underlying panel may be accessed in order to remove the coating or laminate to achieve a test specimen that can be sent to a lab for formaldehyde emissions testing. This process includes removing coatings from hardwood plywood and removing laminates (synthetic or wood veneer) from laminated products to access the underlying composite wood products.

Ex. 10: Standard Operating Procedure for Finished Good Test Specimen Preparation Prior to Analysis of Formaldehyde Emissions from Composite Wood Products (hereinafter “Deconstructive Testing SOP”).

CARB acknowledges that there is variability to deconstructive testing. *See* Ex. 1: Baker Dep. 52:22-53:03. CARB applies an “uncertainty factor” to its results but these “actual values . . . [are] internal information known only to ARB.” *Id.* at 79:04-13. Notably, CARB is the sole

entity that can determine whether any given composite wood product material contained in a finished good violates the emissions standard. *Id.* at 52:02-04. While a retailer could conduct voluntary emissions testing using a third-party tester, the test results generated by an “independent party doing sample preparation and emissions testing” are only for “informational purposes.” *Id.* at 52:13-16. This is because only CARB has access to the “uncertainty factor” that it uses to “absolutely determine” whether a particular product exceeds emissions standards. *Id.* at 52:19-21. Adding to the Protocol’s variability and unreliability, the deconstructive testing SOP uses an “eyeball” test of how much surface to trim or sand down. *See* Ex. 10: Deconstructive Testing SOP at 4. Finally, unlike the ATCM, the deconstructive testing SOP did not undergo traditional notice and comment review ordinarily required of a regulation promulgated by a government entity. Instead, CARB simply published the deconstructive testing SOP on its website on September 13, 2013. *See* FAQ No. 30, <http://www.arb.ca.gov/toxics/compwood/implementation/faq.htm>.

II. Summary of Plaintiffs’ Expert Reports and Testimony Related to Deconstructive Testing.

All three of Plaintiffs’ experts rely on deconstructive testing to support their opinions. The opinions of Francis J. Offermann, Dr. David E. Jacobs, and rebuttal expert Dr. Steven A. Verhey as related to deconstructive testing should be excluded for failure to comply with the *Daubert* standard. A chart identifying each portion of Plaintiffs’ experts’ deconstructive testing opinions that should be stricken is attached to the Proposed Order accompanying this Motion.

A. Francis J. Offermann

Francis Offermann (“Offermann”) opines that the Deconstructive Testing Protocol is “employed to accurately measure formaldehyde emissions from the composite core contained in the finished flooring product.” Ex. 11: Offermann Report ¶ 85. According to Offermann,

“[o]nly by testing the composite core itself can one get an indication of the potential for formaldehyde emissions into the indoor air.” *Id.* at ¶ 85. Having conducted no actual testing himself, Offermann concludes that the 2013 CARB and 2009 AHFA studies “show that the CARB deconstruct[ive] SOP for finished products does not substantially alter the emission rates of formaldehyde from the core materials.” *Id.* ¶ at 94. Offermann also relies on the deconstructive tests conducted by Plaintiffs in the Proposition 65³ (“Prop 65”) lawsuit (which Lumber Liquidators won), stating that “[e]ach of the 38 samples tested exceeded the CARB ATCM maximum permissible formaldehyde emission rates.” *Id.* at ¶ 88. Offermann uses the results of the 38 samples tested to infer that all Lumber liquidators Chinese-made laminate flooring products have MDF cores that exceed the Phase II limit. *Id.* at ¶ 96.

B. Dr. Steven A. Verhey

Dr. Steven Verhey (“Dr. Verhey”) is employed at PFS TECO, a lab that conducted deconstructive testing on behalf of Plaintiffs in the Prop 65 case. Ex. 12: Verhey Report ¶ 2; Ex. 13: Verhey Dep. 76:14-18. PFS TECO has also conducted testing on behalf of numerous Plaintiffs in this litigation. Ex. 13: Verhey Dep. 80:14-81:09. Dr. Verhey opines that “[w]hile it is true that CARB does not treat its 0.11 ppm limit as a bright line, and that an ‘uncertainty factor’ exists, it is important not to make too much of this fact.” Ex. 12: Verhey Report ¶ 20. Dr. Verhey states that testing following the Deconstructive Testing Protocol has “proven to be a reliable tool to determine whether the formaldehyde content in the composite cores of finished laminated products emits more formaldehyde than is permitted by the ATCM.” *Id.* at ¶ 20.

³ *Global Community Monitor, et al. v. Lumber Liquidators, Inc., et al.*, Superior Court of California for the County of Alameda, No. RG14733797.

As support for this proposition, Dr. Verhey cites to his past experience in testing “at least 400 laminate flooring and core board samples” following the Deconstructive Testing Protocol.

Ex. 12: Verhey Report ¶ 21; Ex. 13: Verhey Dep. 83:05-16. Dr. Verhey opines:

Almost universally, the only products where results have shown cores that are likely to exceed CARB’s formaldehyde limits were from Lumber Liquidators’ Chinese-manufactured composite laminate products. Deconstructive tests on similar flooring products that were manufactured outside of China and similar products from other retailers have nearly universally shown formaldehyde levels that are at or below CARB phase II limits.

Ex. 12: Verhey Report ¶ 22. Dr. Verhey concludes that the deconstructive process CARB has specified in its SOP is a “necessary step in preparing specimens for testing” and that “[r]emoving the laminate is . . . necessary to accurately detect the formaldehyde from the core.” *Id.* at ¶ 27. Significantly, Dr. Verhey uses the deconstructive tests conducted by the Prop 65 Plaintiffs to opine that generally, the MDF cores of all Lumber Liquidators’ laminate flooring products exceed the maximum emission rates permitted by CARB. *Id.* at ¶¶ 22, 26.

Dr. Verhey’s current testimony completely contradicts his previous testimony in the Prop 65 litigation. When asked how he would interpret the results from deconstructive testing, Dr. Verhey testified:

*I wouldn’t interpret them. I’m not going to . . . I don’t issue interpretations unless I have a basis for issuing an interpretation. Usually when we issue the interpretation as an . . . accredited lab, I’ll issue an interpretation of a test, or certainly the testing that our company does. We have clear criteria that we evaluate against . . . if I test the *core material* . . . and I followed everything in the standard, then I can make a judgment about that. But in the case here, you don’t issue . . . you’re not certifying . . . a product, you’re not making a judgment about it. *I’m not doing enforcement testing. Nor do I issue interpretations with respect to this. It’s just too dangerous.**

Ex. 14: Verhey Prop 65 Dep. 119:4-21 (emphasis added). Yet that is precisely with Dr. Verhey seeks to do here.

C. Dr. David E. Jacobs

Dr. David E. Jacobs (“Dr. Jacobs”) opines that deconstructive testing a “delaminated” panel is necessary because formaldehyde in the core will eventually find its way out into the home environment. Ex. 15: Jacobs Dep. 60:12-61:08. While Dr. Jacobs offers no direct opinions regarding the accuracy and validity of the Deconstructive Testing Protocol, he relies on Dr. Verhey’s interpretation of deconstructive test results. Ex. 16: Jacobs Report ¶ 33. As such, Lumber Liquidators moves to exclude Dr. Jacobs’ report and testimony to the extent that he will offer opinions relying on or based on deconstructive testing.

LEGAL STANDARD

Pursuant to Rule 702 of the Federal Rules of Evidence, a court may consider expert testimony only if three critical conditions are satisfied: (1) the proffered witness is “qualified as an expert by knowledge, skill, experience, training, or education;” (2) the witness’s testimony is relevant to the case (i.e., it “is based on sufficient facts or data” and “will help the trier of fact to understand the evidence or to determine a fact in issue”); and (3) the witness’s testimony rests on a reliable foundation (i.e., it is “the product of reliable principles and methods” that “the expert has reliably applied . . . to the facts of the case.”) *See* Fed. R. Evid. 702; *accord Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 588 (1993). The overarching goal of Rule 702 is to assess the “scientific validity and thus the evidentiary relevance and reliability—of the principles that underlie a proposed [expert] submission.” *Daubert*, 509 U.S. at 594-95.

Rule 702 “imposes a special obligation upon a trial judge to ensure that any and all scientific testimony is not only relevant, but reliable.” *United States v. Hassan*, 742 F.3d 104, 130 (4th Cir.), *cert. denied sub nom. Sherifi v. United States*, 134 S. Ct. 2737 (2014), and *cert. denied*, 135 S. Ct. 157 (2014), and *cert. denied sub nom. Yaghi v. United States*, 135 S. Ct. 192,

(2014) (internal citations omitted). The five *Daubert* factors for evaluating the reliability of expert testimony, as applied by the Fourth Circuit, are:

(1) whether the particular scientific theory “can be (and has been) tested”; (2) whether the theory “has been subjected to peer review and publication”; (3) the “known or potential rate of error”; (4) the “existence and maintenance of standards controlling the technique’s operation”; and (5) whether the technique has achieved “general acceptance” in the relevant scientific or expert community.

Hassan, 742 F.3d at 130.

A “methodology-based review is even more necessary” when an expert’s scientific theory is “novel or emerging.” *Hayes v. Raytheon Co.*, 808 F. Supp. 1326, 1330 (N.D. Ill. 1992) *aff’d*, 23 F.3d 410 (7th Cir. 1994); *Attorney Gen. of Oklahoma v. Tyson Foods, Inc.*, 565 F.3d 769, 780 (10th Cir. 2009) (“where established methods are employed in new ways, a district court may require further indications of reliability”). The “expert’s *methods*—not his theory—must be examined to ensure that his procedures are of a type reasonably relied upon in the scientific community.” *Hayes*, 808 F. Supp. at 1330.

Courts scrutinize new or novel methodologies by making sure: (1) “the procedures employed by the expert cannot diverge significantly from the methods accepted by other experts in the field”; (2) “the expert’s methods must have some scientific support, such as published studies, replication or verification, beyond the testifying expert’s own hypothesis”; (3) “there must be a connection between the currently-observed facts and some known scientific paradigm”; (4) and that “facts and data” supporting the expert’s opinion must be a “type reasonably relied upon by other experts in the field.” *Id.* (internal citations omitted). Moreover, any “inferential steps” made by experts must be “sound and trustworthy.” *Gross*, 83 F. Supp. 2d

at 599. Where an expert's theory depends on "numerous logical shortcuts and inferential leaps," it is "greatly suspect" and ultimately inadmissible.⁴ *Id.* at 599-600.

Finally, especially where the "science" is "complex and evolving," there cannot be "too great an analytical gap between the data presented and the opinions offered." *Henricksen v. ConocoPhillips Co.*, 605 F. Supp. 2d 1142, 1169-71 (E.D. Wash. 2009) (a theory that has "considerable uncertainty in the scientific community" results in there being "simply too great an analytical gap between the data presented and the opinions offered . . . such that it renders the expert testimony too speculative as a matter of law"); *see also Jones v. Otis Elevator Co.*, 861 F.2d 655, 662 (11th Cir.1988) (expert opinions must be based on "facts which enable [the expert] to express a reasonably accurate conclusion as opposed to conjecture or speculation").

ARGUMENT

I. The Deconstructive Testing Protocol is a Speculative and Unreliable Testing Method That Fails the *Daubert* Standard.

Lumber Liquidators moves to exclude all testimony and expert opinions related to the Deconstructive Testing Protocol because:

(1) the Deconstructive Testing Protocol is a novel theory that has not been adequately "tested," and the limited testing that has been done shows that it is an inaccurate surrogate for measuring the emission of a raw core;

(2) the Deconstructive Testing Protocol has not been validated by "peer review and publication";

⁴ That an "expert fail[s] to subject his method to peer-review and to develop his opinion outside the litigation is not dispositive," but if these "guarantees of reliability are not satisfied, the expert must explain precisely how he went about reaching his conclusions and point to some objective source . . . to show that he has followed the scientific method, as it is practiced by (at least) a recognized minority of scientists in his field." *Ingram v. Solkatronic Chem., Inc.*, No. 04-CV-0287-CVE-PJC, 2005 WL 3544244, at *4 (N.D. Okla. Dec. 28, 2005) (internal citations omitted); *see also Nelson v. Am. Home Products Corp.*, 92 F. Supp. 2d 954, 972 (W.D. Mo. 2000) (opinions based on "anecdotal case studies" are based on information "that the scientific community regards as not reasonably reliable").

(3) as only CARB has knowledge of the “known or potential rate of error,” no third-party tester can use the Deconstructive Testing Protocol to accurately measure emissions of the core and no third-party can assess the validity of the data supporting CARB’s “uncertainty factor”;

(4) there is large variability in the “existence and maintenance of standards” underlying the Deconstructive Testing Protocol; and

(5) the Deconstructive Testing Protocol has failed to achieve “general acceptance” in the relevant scientific and industry communities.

A. The Deconstructive Testing Protocol is a novel theory that has not been adequately “tested,” and the limited testing that has been done shows that it is an inaccurate surrogate for measuring the emissions of a raw core.

The first *Daubert* factor requires an inquiry into whether the particular scientific theory “can be (and has been) tested.” *Hassan*, 742 F.3d at 130 (quoting *Daubert*, 509 U.S. at 593). The “testing” factor under *Daubert* is crucial where an expert proposes a theory that modifies well-established knowledge—such as modifying the recognized D-6007 ASTM Protocol for measuring formaldehyde emissions by theorizing that testing a “deconstructed” core is an accurate surrogate for measuring the emissions levels of a raw core. *See Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1235-36 (10th Cir. 2004) (when “an expert proposes a theory that modifies otherwise well-established knowledge about regularly occurring phenomenon,” “the importance of testing as a factor in determining reliability [is] at its highest”) (emphasis added).

The Deconstructive Testing Protocol fails this *Daubert* factor because there has been only one scientific study of the test methodology since the establishment of the Protocol, and it concludes that deconstructive testing “can be highly variable” and that “extrapolation of results” entails a “great deal of uncertainty.” Ex. 4: J.S. Pierce et al. An Assessment of Formaldehyde Emissions from Laminate Flooring Measured in China. *REGUL. TOXICOL. PHARMACOL.* 81 (2016) 20, 30. Additionally, the limited testing conducted in 2008, 2009, and 2013 focused on non-laminate products with non-MDF cores. This testing data cannot affirm the accuracy of the

Deconstructive Testing Protocol as applied to the laminate products (with MDF cores) at issue.

As Plaintiffs' expert concedes, MDF has a different density profile than particleboard, and different surface layers (laminate versus veneer) generate additional variations in how the surface layer acts as a barrier to potential formaldehyde emissions. *See* Ex. 9: Offermann Dep. 146:03-22; 152:8-24. And as Plaintiffs' expert acknowledged as of the date of his deposition, no deconstructive testing studies have ever been conducted on laminated MDF core that was manufactured in China—let alone on Lumber Liquidators' products. *Id.* at 167:15-17.

Moreover, the limited testing data from preliminary developmental studies pre-dating the SOP indicates that deconstructive testing is an inaccurate surrogate for testing the emissions of the core. In the 2008 Joint Task Force study, data from six studies evaluated how deconstruction depth and other factors affected the precision and accuracy of using the Deconstructive Testing Protocol to measure emissions of composite wood products compared to raw core samples. Ex. 5: Minutes of the Joint Task Group on Deconstructive Testing Conference Call, Sept. 25, 2008; *see also* Ex. 6: Wait Report at 8. The Protocol is *precise* only if repeated tests resulted in a mean plus or minus a small variability (i.e., standard deviation). But it is not enough just to be precise; the Protocol must be *accurate* as well—i.e., core emissions tested via deconstruction must match the emission levels of the original raw core before the MDF core is put into a finished product.

Of the companies that provided data, only one provided potentially sufficient data to determine the precision and accuracy of the Deconstructive Testing Protocol. Ex. 6: Wait Report at 9. This data indicated that the Deconstructive Testing Protocol was neither precise nor accurate. *Id.* The deconstructed samples produced concentrations that were significantly in excess of 1 standard deviation of the mean relative to the control. *Id.* In other words, the emissions concentration of the *highest* control (raw core sample) was still lower than the *lowest*

deconstructed core sample. Essentially, the data showed that removal of surface material through the Deconstructive Testing Protocol would cause a statistically significant increase of formaldehyde emissions relative to the raw composite wood product. *Id.*

The 2013 CARB study had two objectives: one to collect data to show that some deconstructed *veneered* products emitted considerably more formaldehyde than the raw material itself “due to the formaldehyde in the glue used to affix the veneer.” Ex. 1: Baker Dep. 87:20-88:7. The second goal was to finalize CARB’s Deconstructive Testing Protocol to see what surface root removal amount compared most closely with the raw core. *See* Ex. 7: 2013 CARB Study at 3; *see also* Ex. 1: Baker Dep. 87:20-88:07. The first objective demonstrates that the Deconstructive Testing Protocol is not accurate because using the Protocol results in higher emissions rates than would be measured from testing raw cores. The second objective shows that the Protocol is not precise or repeatable. Results are variable because there is no consistent way to remove an exact amount of surface from each finished product.

For example, comparing the raw core emissions versus the deconstructed emissions of one sample (Sample FAB 2-AD1) suggests that the more surface is removed during deconstruction, the *higher* the formaldehyde emissions of the deconstructed core. Ex. 7: 2013 CARB Study at 6. In contrast, the testing results from another sample (Sample FAB 7-1) suggest that the more surface is removed during deconstruction, the *lower* the formaldehyde emissions. *Id.* at 7. CARB does not attempt to reconcile these inconsistencies in their report—nor does CARB establish a precise amount to sand off in its deconstructive testing protocol. Instead, CARB recommends removing about 0.003 to 0.01 inches per pass until the desired glue or laminate line has been removed, which usually results in removing 0.005 to 0.03 inches in thickness. *See* Ex. 10: Deconstructive Testing SOP at 4; *see also* Ex. 17: Smith Report ¶ 30.

While the range in the amount of surface removed appears small, the variation in measured emissions rates that result is “quite large and significant” and contributes to the Deconstructive Testing Protocol’s inaccuracy and unreliability. *See* Ex. 17: Smith Report ¶ 31.

In 2009, the American Home Furnishings Alliance (“AHFA”) conducted a study to test *particleboard* panels sampled from the same lot. Ex. 8: 2009 AHFA Study at 3. The study conducted a statistical significance test (the *t*-Test) comparing emissions of a raw core versus that of a raw core that was put into a finished product and subsequently tested using the Deconstructive Testing Protocol. *Id.* at 20. The study found that there was a statistically significant difference between emissions of a raw panel versus a finished panel tested using the Protocol. *Id.* Furthermore, the study concludes that “[d]econstruction significantly alters the emissions characteristics of [c]omposite [p]anel.” *Id.* at 21. As such, the limited preliminary testing that has been done show that using the Deconstructive Testing Protocol is a scientifically inaccurate and invalid surrogate for accurately measuring the emissions of the raw core.

B. The Deconstructive Testing Protocol has *not* been validated by “peer review and publication.”

The Deconstructive Testing Protocol fails the second *Daubert* factor because it has not passed “peer review and publication” endorsing the validity of the testing methodology. *Daubert*, 509 U.S. at 593. In fact, the only peer-reviewed method validation study since the establishment of Deconstructive Testing Protocol does not support deconstructive testing. *See* Ex. 4: J.S. Pierce et al. An Assessment of Formaldehyde Emissions from Laminate Flooring Measured in China. *REGUL. TOXICOL. PHARMACOL.* 81 (2016) 20, 30 (“We found that the CARB Deconstructive emission test results can be *highly variable*, even when using a single laboratory to evaluate different lots of the same wood laminate product.”) (emphasis added).

Measurement protocols are not reliable unless the method used to produce the intended measurements has been adequately validated.⁵ There are no interlaboratory comparison studies or independent method validation studies that evaluate the quality, reliability, or reproducibility of the Deconstructive Testing Protocol. In addition, Lynton Baker⁶ testified that CARB has never completed interlaboratory comparisons with respect to deconstructive testing.⁷ Ex. 1: Baker Dep. 71:20-22. Courts have rejected expert opinions when an expert attempts to alter the protocols of an established method without a validated basis for doing so. *See, e.g., Sanchez v. Boston Sci. Corp.*, No. 2:12-CV-05762, 2014 WL 4851989, at *7 (S.D.W. Va. Sept. 29, 2014) reconsideration denied, No. 2:12-CV-05762, 2014 WL 5320559 (S.D.W. Va. Oct. 17, 2014); *Tyree v. Boston Sci. Corp.*, 54 F. Supp. 3d 501 (S.D.W. Va. 2014), as amended (Oct. 29, 2014). Under these facts, this Court should exclude any Plaintiffs' experts' testimony or opinions related to the Deconstructive Testing Protocol.

- C. As only CARB has knowledge of the “known or potential rate of error,” no third-party tester can use the Deconstructive Testing Protocol to accurately measure emissions of the original raw core and no third-party can assess the validity of the data supporting CARB’s “uncertainty factor.”

CARB is the sole “entity that can issue a violation for a composite wood product material contained in a finished good.” Ex. 1: Baker Dep. 52:02-04. CARB is also the sole entity that

⁵ For instance, NELAC’s (a recognized accreditation agency) Quality System states that for nonstandard methods, the “method developed shall have been validated approximately before use.” Ex. 6: Wait Report at 6.

⁶ Lynton Baker has been employed by the California Air Resources Board for thirty years. Ex. 1: Baker Dep. 9:04-07. Baker assisted in drafting the ATCM—specifically, section 93120.9 regarding test methods. *Id.* at 12:04-08.

⁷ In contrast, the ASTM requires a “statement of single-operator repeatability [as] the entrance requirement for any candidate method” prior to consideration for the method for evaluation as a standard. Ex. 6: Wait Report at 6.

has access to the “uncertainty factor”⁸ it uses to “absolutely determine” whether a particular product exceeds emissions standards. *Id.* at 52:19-21. And CARB concedes that the Deconstructive Testing Protocol has known “rate[s] of error,” but refuses to share error rates with anyone. *Daubert*, 509 U.S. at 594. Consequently, deconstructive test results generated by an “independent party doing sample preparation and emissions testing” are only for “informational purposes.” Ex. 1: Baker Dep. 52:13-16.

The secrecy of CARB’s “uncertainty factor” is significant, given that the process of deconstructing a finished product alters the make-up of that sample such that it is no longer representative of the original sample, i.e., the raw core. *See* Ex. 6: Wait Report at 10-11. CARB has admitted that the Deconstructive Testing Protocol has the potential to increase emissions. For example, if there is still glue on the tested sample, it will result in an increased emissions rate. Ex. 1: Baker Dep. 85:17-86:02. Additionally, the emissions rate will vary depending on how much surface is removed past the glue line. *Id.* at 115:05-10. Due to the actual variability of the Deconstructive Testing Protocol and without knowing CARB’s “uncertainty factor,” it is impossible for any third-party to use the Deconstructive Testing Protocol as an accurate surrogate for testing the emissions rate of a raw core. The only way for a third-party to effectively use the known “rate of error” is to analyze the underlying data supporting CARB’s “uncertainty factor,” which CARB has refused to reveal publicly. So even if CARB were to release its “uncertainty factor” and potential rate of error, no third-party can assess the validity of the data supporting CARB’s “uncertainty factor.” *See Wright v. Jeep Corp.*, 547 F. Supp. 871,

⁸ In other words, a test result of 0.12 ppm may not exceed CARB’s emissions standard because CARB would not take enforcement action unless the “test result was above not only the emissions standard, but the *emissions standard plus that uncertainty factor.*” Ex. 1: Baker Dep. 47:10-15 (emphasis added).

874 (E.D. Mich. 1982) (“[I]f the conclusions or end product of a research effort is to be fairly tested, the underlying data must be available to others equally skilled and perceptive.”).

D. There is large variability in the “existence and maintenance of standards” underlying the Deconstructive Testing Protocol.

Under the fourth *Daubert* factor, the “existence and maintenance of standards controlling the technique’s operation” helps establish whether a particular protocol is admissible under *Daubert*. *Daubert*, 509 U.S. at 593. The Deconstructive Testing Protocol, however, is a technique that suffers from large variability and generates imprecise and inaccurate emissions measurements. Simply put, the Protocol is unreliable because it is unrepeatable.

First, due to the inconsistent, conflicting data emerging from the 2013 CARB study, CARB established a subjective “eyeball” test of how much surface to remove below the glue line to obtain the most accurate emissions of the deconstructed core as compared to the raw core. *See* Ex. 10: Deconstructive Testing SOP at 4. The SOP recommends that testers trim “small amounts (less than 0.02 inches per pass is recommended) until the desired coating or laminate and glue line has been removed (typically 0.005 inches to 0.03 inches)” and that at the “final thickness,” the tester should “pass the board thru [sic] one time in each direction to achieve a more uniform thickness.” Ex. 10: Deconstructive Testing SOP at 4. Therefore, instead of the 2013 CARB study specifying a uniform surface amount (0.01, 0.02, or 0.04 inches) to remove, the tester should simply “eyeball” the sample until he or she believes that the entire laminate coating and glue line has been removed. The range of “0.005 to 0.03 inches” allowed by the Deconstructive Testing Protocol contributes to a “large and significant” variation in the emissions rate that is measured. *See* Ex. 17: Smith Report ¶ 30; *see also* Ex. 7: 2013 CARB Study at 7 (for Sample FAB 7-3, measured emissions varied by 0.06 ppm when sanding off an additional 0.01 inches).

Plaintiffs' own testing reveals significant variability in the amount of surface that is sanded off. For example, some of the Plaintiffs' deconstructive testing showed a range in the thickness of material removed of 0.028 inches up to 0.09 inches, a difference of over 300%. Ex. 17: Smith Report ¶ 34. Other Plaintiffs' testing reports do not specify how much surface was removed, or round to a number that is imprecise and does not accurately account for the variability caused by different amounts of surface removal. *Id.* A surface removal amount of 0.09 inches widely exceeds the SOP's suggested removal range of "0.005 inches to 0.03 inches." Ex. 10: Deconstructive Testing SOP at 4. The amount of surface that is removed can significantly affect the emissions measurements of the deconstructed core. If too little is sanded off, the extra remaining formaldehyde glue will result in a higher emissions measurement. And according to the results of the 2013 CARB study, too much surface removal also results in higher emissions, so much so that removing more than 0.03 inches is not recommended. *Id.*

Second, under the Deconstructive Testing Protocol, third-party testers are able to use different equipment for stripping away the top and bottom layers to expose the composite wood core. A "planer" or a "sander" may be used to deconstruct a finished product. *See* Ex. 10: Deconstructive Testing SOP at 4 ("Selection of a planer or a sander can be made based on operator preference or other constraints such as sample size or thickness."). CARB concedes that there is some variability in "removing a finish or a veneer or a laminate" where there is both the sanding method available or the use of a planer to remove the surface layer. Ex. 1: Baker Dep. 42:11-43:08. The use of a planer, as was done by many of the Plaintiffs' testing laboratories, results in "uneven surfaces" because the planer lacks the "necessary precision" to sand down an even surface. *See* Ex. 17: Smith Report ¶ 34.

Third, different fabricators use different glues and methods to bind a composite wood core to the veneer or laminate outer layers. This additional formaldehyde resin is not regulated by CARB, and CARB acknowledges that there is “variability” in the “application” of glue used to bind the composite wood core to the outer layers. Ex. 1: Baker Dep. 42:11-16. Emissions levels will fluctuate widely based on the type and amount of formaldehyde glue used to bind the composite core into a finished product by adding various amounts for formaldehyde glue into the MDF core during the lamination process. Ex. 17: Smith Report ¶ 43.

Plaintiffs’ own deconstructive testing shows a range of thickness of material removed of over 300%. *See id.* at ¶ 34. This variability is exacerbated when the SOP allows different equipment to deconstruct a finished product—including equipment that produces a deconstructed core with an uneven surface, and where there is large variability in the type of glue different fabricators use. Thus, the leeway allowed by the Deconstructive Testing Protocol ultimately results in a “technique” that lacks the “existence and maintenance of standards controlling the technique’s operation.” *Daubert*, 509 U.S. at 593.

E. The Deconstructive Testing Protocol has failed to achieve “general acceptance” in the relevant scientific and industry communities.

Courts have excluded expert opinions based on testing that is not conducted to a required industry standard. *See, e.g., Fireman's Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1058 (8th Cir. 2005). The Deconstructive Testing Protocol fails the fifth *Daubert* standard for at least five reasons. First, the leading testing regulatory body—the American Society for Testing and Materials (“ASTM”), has not sanctioned deconstructive testing. Second, CARB admits that it never completed interlaboratory comparisons with accredited labs with respect to the Deconstructive Testing Protocol. Ex. 1: Baker Dep. 71:20-22. This is significant, as the interlaboratory comparison is a practice that is required by the ASTM when considering whether

to develop and establish a new standard or protocol. Ex. 6: Wait Report at 6. The Deconstructive Testing Protocol has not established “general acceptance” by ASTM standards—and ASTM is a recognized leader in industry standards for scientific testing.

Third, industry leaders have released comments regarding the unreliability of Deconstructive Testing Protocol. In 2015, the AHFA released a “Joint Industry Statement on Deconstructive Testing.” Ex. 18: 2015 AHFA Statement. According to the AHFA, “deconstructive testing is controversial and is a topic of frequent discussions between CARB and industry stakeholders.” *Id.* at 1. The AHFA states that “deconstructive testing is unreliable” because “deconstruction significantly alters the emissions characteristics of Composite Panel, regardless of whether the panel is finished or not.” *Id.* at 2. The AHFA notes that CARB has “acknowledged the variability of deconstructive testing” where “CARB has published and acknowledges variability in observed emission rates of deconstructed laminated panels that are in excess of the published emission limits of raw, regulated composite wood products.” *Id.* The AHFA also states that CARB has not independently validated the Deconstructive Testing Protocol and that the Protocol does not take into consideration all products (including the variations between the glue used by various fabricators in the industry). *Id.* Finally, the AHFA acknowledges that the CARB emissions standards were developed for raw panels, and “not on deconstructed finished panels used as component parts of finished goods.” *Id.* There are “no published standards or guidelines used by CARB to determine compliance for deconstructed composite wood panels.” Therefore, “enforcement actions regarding regulated panels used as component parts of finished goods should not be based on a non-validated SOP test method, obvious uncertainty, and subjective interpretation.” *Id.*

Fourth, to this day, the Deconstructive Testing Protocol has not been subject to notice and comment review, which is the default mechanism that allows the applicable industry affected by a regulation to comment on a developing regulatory standard. While the “SOP is published on the ARB website,” it is “not directly referenced or incorporated within the ATCM.” *Id.* Fifth, the “uncertainty factor” that CARB uses to evaluate whether a company actually violates the CARB Phase II emissions standards is unknown to any third-party testers. And due to the “uncertainty factor” that CARB has refused to publicly reveal, the industry has not been able to evaluate the variability of the Deconstructive Testing Protocol for itself to determine whether the Protocol is an accurate surrogate for measuring the formaldehyde emissions of the raw core. Subsequently, only CARB can determine a violation of the ATCM, and test results generated by an “independent party doing sample preparation and emissions testing” are only for “informational purposes.” Ex. 1: Baker Dep. 52:13-16.

F. This Court should reject the “greatly suspect” “inferential leap” that The Deconstructive Testing Protocol is an accurate surrogate for determining the emissions of a raw core.

Due to the underdeveloped and speculative Deconstructive Testing Protocol, this Court should reject the “greatly suspect” “inferential leap” generated by Plaintiffs’ experts that the Deconstructive Testing Protocol is an accurate surrogate for determining the emissions of a raw core. *Gross*, 83 F. Supp. 2d at 599-600. Plaintiffs’ experts should not be permitted to rely on deconstructive testing to opine on the ultimate issue in this litigation, that all of Lumber Liquidators’ products manufactured by different fabricators for the last seven years are not CARB compliant—discussed further in *infra* Part II. Ultimately, the Deconstructive Testing Protocol does not accurately or precisely measure the emissions of the original composite wood core. In contrast, the only accurate measurement of raw core emissions is by testing the raw core

itself as specified in the regulation. *See* Ex. 17: Smith Report ¶ 32. As such, Plaintiffs’ experts’ testimony regarding deconstructive testing should be excluded under *Daubert*.

II. Plaintiffs’ Experts’ Reports and Testimony Regarding Deconstructive Testing Should Be Excluded Under *Daubert*.

The unreliability of the Deconstructive Testing Protocol is exacerbated where Plaintiffs’ experts Francis J. Offermann and Dr. Steven A. Verhey rely on the Protocol to make highly suspect “inferential leaps” to generate speculative opinions. *Gross*, 83 F. Supp. 2d at 599-600. This Court should strike Plaintiffs’ experts’ opinions (*see* Appendix A to Proposed Order) related to or based on deconstructive testing because these opinions are based on subjective experiences, biased sampling methods, and anecdotal evidence. To the extent Dr. Jacobs attempts to piggyback on Dr. Verhey’s opinions, without any independent analysis, his opinions must also be stricken.

A. Francis J. Offermann

Offermann’s opinions that the Deconstructive Testing Protocol accurately measures formaldehyde emissions from composite wood core contained in the finished flooring product is speculative and should be excluded. Offermann has not done any testing—deconstructive or otherwise, himself. Instead, Offermann cherry-picks information from other sources to reach a pre-determined conclusion that the Deconstructive Testing Protocol is reliable. Offermann’s opinion is stitched together with biased and anecdotal evidence that is not regarded as reasonably reliable by the scientific community. *Nelson*, 92 F. Supp. 2d at 972.

First, Offermann concedes that there is a “measurement of uncertainty” for the Deconstructive Testing Protocol that the “people . . . certifying the products have to take . . . into consideration.” Ex. 9: Offermann Dep. 148:15-17. Offermann also agrees that the manufacturing process of the board introduces “variability.” *Id.* at 149:04-08. Elsewhere in his

report, while criticizing Lumber Liquidators' finished products testing, Offermann states that a variation between 20%-200% is "very high" and "not acceptable for an exposure assessment."

Ex. 11: Offermann Report ¶ 54. Yet Offermann admits that the variation in the Deconstructive Testing Protocol is plus or minus "50%." Ex. 9: Offermann Dep. 166:21-22. In Offermann's own words, the variability of deconstructive testing must be "very high." Ex. 11: Offermann Report ¶ 54.

Second, Offermann erroneously relies on 38 deconstructive tests conducted for Plaintiffs in the Prop 65 litigation to infer that all Lumber Liquidators' Chinese laminate products are not CARB compliant. *Id.* at ¶ 96. Offermann did not conduct or participate in any of these tests. As a result, Offermann does not know the details of this testing and cannot ensure that the testers used statistically valid sampling methods to account for sampling bias. In fact, the sample of 38 deconstructive tests on which Offermann relies is not representative of the population of laminate flooring at issue in these matters. Over the 7 year period where Lumber Liquidators purchased and sold hundreds of different laminate products, Lumber Liquidators was supplied by different manufactures who used various suppliers of fiberboard cores. There are more than 33,000 purchase orders for different products that have been supplied to Lumber Liquidators over the last 7 years. *See* Ex. 19: Purchase Order Spreadsheet Excerpt (Filed Under Seal). Offermann relies on 38 individual samples out of the universe of these 33,000 purchase orders. If a "sample is drawn from an unrepresentative portion," the results of "testing are not reliable." *Hershey Foods Corp. v. Waterman S.S Corp.*, No. 82 CIV. 0533 (DNE), 1994 WL 281929, at *5 (S.D.N.Y. June 22, 1994) *aff'd*, 43 F.3d 1458 (2d Cir. 1994).

Therefore, Offermann fails to use a statistically sound sampling method such as random sampling to avoid selection bias. Instead, he relies on a sample that is "skewed in its distribution

by vendor and product type.” Ex. 20: Van Liere Report at 13. The sample as a whole is further biased due to having been selected by Plaintiffs’ counsel. *Id.* at 11, 13. Offermann concedes that there is a “high degree of variability” among the 38 samples, and cannot offer opinions with respect to PFS TECO’s accuracy assumptions. Ex. 9: Offermann Dep. 151:08-10. An expert cannot rely on results generated from testing a sample size that is too small or too biased to produce a reliable result. *See, e.g., Hershey Foods Corp.*, 1994 WL 281929, at *5.

Third, Offermann cites to the 2013 CARB study and the 2009 AHFA study to support his opinion that “the CARB deconstruct[ive] SOP for finished products does not substantially alter the emission rates of formaldehyde from the core materials.” Ex. 11: Offermann Report ¶ 94. Offermann misstates the conclusions from these studies. For example, the 2009 AHFA explicitly states that “deconstruction alters the panel” and concludes that “[m]aking any inference that the emissions values are equal would be inadvisable between a raw panel and deconstructed panel, finished or otherwise.” Ex. 8: 2009 AHFA Report at 14. Similarly, the 2013 CARB study demonstrates that the Deconstructive Testing Protocol fails to replicate the emissions rates of raw panels. One of the objectives from this study was to collect data showing that using the Deconstructive Testing Protocol results in measuring a *higher* formaldehyde emissions rate than would be measured from testing the original raw core. *See* Ex. 7: 2013 CARB Study at 3; *see also* Ex. 1: Baker Dep. 87:20-88:07. These two studies directly contradict Offermann’s conclusion that the Protocol accurately measures formaldehyde emissions from the raw core. Ex. 11: Offermann Report ¶ 85; Ex. 21: Offermann Rebuttal Report ¶ 11. Offermann also acknowledges that there have been no deconstructive studies conducted for MDF manufactured in China, and that studies using particleboard have limited value for evaluating

MDF due to the differences in density between the two types of composite material. Ex. 9: Offermann Dep. 152:03-153:17; 167:15-17.

Offermann opines that “only by testing the composite core itself can one get an indication of the potential for formaldehyde emissions into the indoor air.” Ex. 11: Offermann Report ¶ 85. Lumber Liquidators does not disagree. Yet the Deconstructive Testing Protocol is not testing the original “composite core,” and Offermann’s theory that the Deconstructive Testing Protocol is a reliable surrogate for measuring raw core emissions depends on “numerous logical shortcuts and inferential leaps” that cannot be admissible under *Daubert*. *Gross*, 83 F. Supp. 2d at 599-600.

B. Dr. Steven A. Verhey

Dr. Verhey is a scientist at PFS TECO, whose lab has conducted testing using the Deconstructive Testing Protocol. Dr. Verhey is not an expert in resin chemistry, and his deconstructive testing experience is solely limited to litigation purposes. Ex. 13: Verhey Dep. 61:05-16. Dr. Verhey did not participate in reviewing or preparing the Deconstructive Testing Protocol. *Id.* at 110:07-14. Dr. Verhey has never visited any Chinese facilities to witness the laminate flooring product manufacturing process. *Id.* at 123:05-12. Nonetheless, Verhey opines that the Deconstructive Testing Protocol yields “realistic” results to measure the emissions of the raw core. *Id.* at 86:19-87:05.

First, Plaintiffs’ non-production of the testing data relied on by Dr. Verhey is sanctionable conduct, as explained in Lumber Liquidators’ Memorandum in Support of Motion (1) to Strike Paragraphs 20-34 of “Rebuttal Expert Report of Steven A. Verhey” and (2) for Rule 37 Sanctions for Discovery Violations, which is being filed contemporaneously herewith.

Second, Dr. Verhey’s opinion regarding the Deconstructive Testing Protocol is speculative because his opinion is based on his *subjective* experiences of testing products using

the Deconstructive Testing Protocol. Ex. 13: Verhey Dep. 87:02-94:20. Dr. Verhey's sample of 125 Lumber Liquidators' products is not a random sample, but a sample hand-picked, by attorneys, in anticipation of or in the course of litigation. Therefore, Dr. Verhey's sample is a biased one that cannot yield any reliable results. *See Hershey Foods Corp.*, 1994 WL 281929, at *5 (testing results are unreliable if sample is unrepresentative). Dr. Verhey has not "reliably applied" sampling "principles and methods" to the facts of the case. Fed. R. Evid. 702.

Third, the concessions that Dr. Verhey makes are fatal to his opinions. Dr. Verhey concedes that CARB has an "uncertainty factor" and that it is not possible to take off the same surface amount each time in the deconstructive process. Ex. 13: Verhey Dep. 186:03-08; Ex. 12: Verhey Report ¶ 24. Dr. Verhey admits that produced test reports (from tests conducted by PFS TECO) show "large fluctuations" between net changes in thickness—i.e., how far to remove below the glue line. Ex. 13: Verhey Dep. 204:17-205:20. Indeed, Plaintiffs' test reports showed a range in the thickness of material removed of 0.28 inches up to 0.09 inches, a difference of over 300%. Ex. 17: Smith Report ¶ 34. At the same time, Dr. Verhey states that cutting more than 0.02 inches below the glue line is not recommended following the results of the 2013 CARB study. Ex. 13: Verhey Dep. 210:17-211:08. Dr. Verhey concedes the variability and unreliability of his own laboratory's tests, yet relies on the same testing data to opine that *all* Lumber Liquidators Chinese-made laminate products are likely to be non-CARB compliant. Verhey Report ¶¶ 22, 26.

Finally, Dr. Verhey has not always held these same opinions. He previously testified that the best way to identify the emissions rate of a finished product is to measure emissions from that finished good, as opposed to measuring from components of that good. Ex. 14: Verhey Prop 65 Dep. 31:15-23. This is because the adhesive used to attach a laminate surface to an MDF core

can influence deconstructive testing results. *Id.* at 55:03-14. In fact, Dr. Verhey refused to interpret deconstructive testing results because it is “just too dangerous.” *Id.* at 119:04-21. Yet a few months later, Dr. Verhey now opines that not only can he interpret deconstructive testing results, but that he can now extrapolate the test results of a selective, biased sample (which has not been produced to Lumber Liquidators) to generate the highly speculative opinion that all Lumber Liquidators Chinese-made laminate products are likely to exceed CARB Phase II limits. Ex. 12: Verhey Report ¶ 25. Dr. Verhey’s opinions have “simply too great an analytical gap between the data presented and the opinions offered” such that it “renders the expert testimony too speculative as a matter of law.” *Henricksen*, 605 F. Supp. 2d at 1169-71.

CONCLUSION

For the foregoing reasons, Defendant Lumber Liquidators moves this Honorable Court to grant the Order attached to its Motion, excluding the expert reports and testimony of Plaintiffs’ experts Francis J. Offermann, Dr. Steven A. Verhey, and Dr. David E. Jacobs, to the extent their testimony is related to or based upon deconstructive testing as described in the Deconstructive Testing Protocol.

Dated: August 1, 2016

Respectfully submitted,

LUMBER LIQUIDATORS, INC.
By Counsel

s/ Diane P. Flannery

Diane P. Flannery (VSB No. 85286)
E-mail: dflannery@mcguirewoods.com
McGuireWoods LLP
Gateway Plaza
800 East Canal Street
Richmond, Virginia 23219-3916
804.775.1015 (Telephone)
804.698.2047 (Facsimile)
Defendant’s Co-Lead Counsel

s/ William L. Stern

William L. Stern (Pro Hac Vice)
E-mail: wstern@mofo.com
Morrison & Foerster LLP
425 Market Street
San Francisco, CA 94105-2482
415.268.7000 (Telephone)
415.268.7522 (Facsimile)
Defendant’s Co-Lead Counsel

CERTIFICATE OF SERVICE

I hereby certify that on August 1, 2016, a true and correct copy of the foregoing was filed electronically with the clerk of this Court using the CM/ECF system, and in accordance with Local Rules and the procedures adopted in the Initial Order and Pretrial Order No. 1A. This filing will cause a copy of the same to be served, via a Notice of Electronic Filing, upon all counsel of record in this matter. I also hereby certify that, on the same day, a true and correct copy of the foregoing was served by U.S. Mail upon the remaining unrepresented party, listed below:

Karriem v. Lumber Liquidators, Inc., No. 1:15-cv-2765

Elijah Karriem (*pro se*)
1404 Asbury Court
Hyattsville, MD 20782

s/ Diane P. Flannery
Diane P. Flannery (VSB No. 85286)
E-mail: dflannery@mcguirewoods.com
McGuireWoods LLP
Gateway Plaza
800 East Canal Street
Richmond, Virginia 23219-3916
804.775.1015 (Telephone)
804.698.2047 (Facsimile)
Defendants' Co-Lead Counsel